

Syphilitic aortitis

A case report

D. F. DU TOIT, M. McCORMICH, L. LAKER

Summary

A case of syphilitic aortitis with total occlusion of the infrarenal aorta without aneurysmal dilatation is presented. Incapacitating claudication of both legs together with pain at rest necessitated an aortobifemoral bypass operation, which resulted in complete relief of symptoms. Histological examination of the aorta showed atherosclerosis together with characteristic perivascular lymphocytic infiltration of the aortic vasa vasorum.

S Afr Med J 1985; 67: 778-779.

The tertiary stage of syphilis frequently results in serious disabling or fatal lesions affecting principally the central nervous system and cardiovascular system. Luetic aortitis is one of the dreaded forms of tertiary syphilis and is a potentially fatal condition.¹

Case report

A 46-year-old coloured man was admitted to Tygerberg Hospital with a 3-month history of incapacitating claudication and rest pain affecting both feet. He had no family history of arterial diseases or diabetes mellitus. He smoked 20 cigarettes per day.

Clinical examination showed the patient to be of lean build, with a blood pressure of 140/90 mmHg and a pulse rate of 72/min. The cardiovascular and respiratory systems were normal. There were no skin lesions or xanthelasma to suggest underlying syphilis. Examination of the arterial system could elicit no femoral, popliteal or foot pulses. There were moderate atrophic changes in the feet but no gangrene, and a tentative diagnosis of atherosclerotic aortic occlusion was suggested. Doppler flow studies showed popliteal pressures of 50 and 35 mmHg on the right and the left side respectively. The pressure index was 0,42 on the right and 0,35 on the left. Translumbal aortography revealed total occlusion of the infrarenal abdominal aorta (Fig. 1). A chest radiograph and a Mantoux skin test were negative.

Laboratory investigations revealed a haemoglobin concentration of 13,8 g/dl, haematocrit 45%, platelet count $245 \times 10^9/l$ and ESR 150 mm/1st h (Westergren). The fasting blood sugar level was 6,3 mmol/l and the oral glucose tolerance test was normal. Serum electrolyte, urea and creatinine levels were

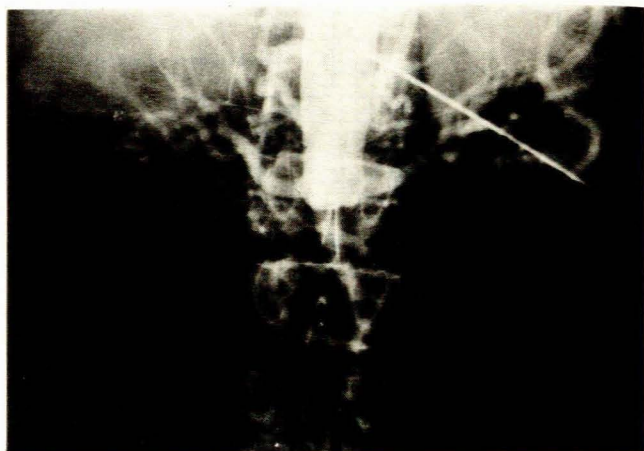


Fig. 1. Translumbal abdominal aortogram showing infrarenal aortic occlusion.

normal, as was liver function. Screening tests for collagen disease, including rheumatoid factor, antinuclear factor, anti-mitochondrial, anti-smooth muscle and anti-parietal cell antibody tests, were negative as was the thyroid microsomal antibody haemagglutination test. The lipogram revealed a cholesterol level of 8,27 mmol/l (normal 3,8-6,5 mmol/l), normal triglyceride and uric acid levels with reduced high-density lipoprotein : cholesterol and high-density lipoprotein : low-density lipoprotein ratios in the serum. Thyroid hormone analysis revealed free T_4 and T_3 levels of 15,05 pmol/l (normal 8,8-23,0 pmol/l) and 4,7 pmol/l (normal 3,0-8,6 pmol/l) respectively. The thyroid-stimulating hormone level was less than 1,0 mU/l (normal 0-0,5 mU/l). Agglutination tests for brucellosis and salmonella infections were negative. Repeated serological tests for syphilis, including the fluorescent antibody test for antitreponemal antibodies, were strongly positive.

Surgery revealed an atherosclerotic aorta with total occlusion. There was no aneurysmal dilatation. An elective aortobifemoral bypass operation using an 18 x 9 mm Dacron graft was performed with complete relief of rest pain and restoration of normal foot pressure. Histological examination of the aorta revealed changes of atherosclerosis and syphilitic aortitis complicated by obliterative endarteritis and marked perivascular leucocytic infiltration surrounding the vasa vasorum.

Postoperatively the patient was given long-acting penicillin 12 million U intramuscularly. His postoperative course was uneventful.

Discussion

Lesions of tertiary syphilis include gummas of virtually any organ and central nervous system and cardiovascular involvement.¹ Of interest is that about one-third of untreated syphilitics achieve spontaneous cure with reversion to normal of the serodiagnostic tests.¹ In addition, one-third will develop serious lesions of a tertiary nature.¹ Of patients with tertiary syphilis,

Department of Surgery, University of Stellenbosch and Tygerberg Hospital, Parowvallei, CP

D. F. DU TOIT, D. PHIL., F.R.C.S.

M. McCORMICH, M.B. CH.B.

L. LAKER, B.S.C.

80-85% develop cardiovascular lesions and in 5-10% the central nervous system is involved.¹ It has been suggested that syphilis predisposes to atheroma and that the lesions often involve the thoracic portion of the aorta.² This association was also observed in our patient.

Syphilitic arteritis and aortitis have previously been reported.¹⁻⁵ The most common sites of arterial involvement are the ascending aorta, the aortic arch and the pulmonary artery.³ Syphilis aortitis is characterized by peri-aortic and meso-aortic inflammation with perivascular cuffing of lymphocytes around the vasa vasorum, as seen in our case.¹⁻⁵ In the early stages of the disease *Treponema pallidum* may occasionally be demonstrated in the vessel wall by means of Levaditi's silver impregnation staining method.³ Obstruction of the vasa vasorum follows, resulting in nutritional impairment of the medial coat together with degeneration of the muscle fibres.³ Aneurysmal dilatation eventually ensues as a result of weakening of the medial layer.⁴ Syphilitic aneurysms are either fusiform or saccular and may attain great size and compress contiguous structures.³ Rupture into the thoracic cavity, peri-

cardial sac, oesophagus or vena cava are known complications.^{1,3,5}

Resection and grafting of aneurysms with Dacron prostheses now offer a much better prognosis than previously.

We thank Mrs M. Louw for typing the manuscript; Dr J. A. van der Westhuyzen, Medical Superintendent of Tygerberg Hospital, for permission to publish; and Dr. J. J. Heydenrych for critical review of the manuscript.

REFERENCES

1. Robbins SL, Cotran RS. *Pathologic Basis of Disease*. 2nd ed. Philadelphia: WB Saunders, 1979: 686.
2. Ogilvie RF. *Histopathology*. 6th ed. Edinburgh: E & S Livingstone, 1967: 164.
3. Spittell JA, Wallace RB. Aneurysms. In: Juergens JL, Spittell JA, Fairbairn JF, eds. *Peripheral Vascular Diseases*. 5th ed. Philadelphia: WB Saunders, 1980: 416.
4. Walter JB, Israel MS. *General Pathology*. 3rd ed. Edinburgh: Churchill Livingstone, 1972: 414.
5. Anderson W, ed. *Boyd's Pathology for the Surgeon*. 8th ed. Philadelphia: WB Saunders, 1967: 42.

Awareness during total intravenous anaesthesia using etomidate

A case report

B. M. BRAUDE, B. C. LEIMAN, P. A. GALLOWAY

Summary

Total anaesthesia using a combination of droperidol and fentanyl and an etomidate infusion was induced and maintained intravenously in a 29-year-old patient undergoing laparotomy for a colonic resection. Post-operatively the patient complained of awareness. Possible explanations for this are discussed.

S Afr Med J 1985; 67: 779-780.

Department of Anaesthesia, Johannesburg Hospital and University of the Witwatersrand, Johannesburg

B. M. BRAUDE, M.B. B.Ch., D.A.(S.A.), F.F.A.(S.A.), Senior Anaesthetist
B. C. LEIMAN, M.B. B.Ch., D.A.(S.A.), F.F.A.(S.A.), Senior Registrar
(Present appointment: Visiting Assistant Professor, Dept of Anesthesiology, University of Texas Medical School at Houston, Texas, USA)

P. A. GALLOWAY, M.B. B.Ch., D.A.(S.A.), F.F.A.(S.A.), Senior Anaesthetist

Awareness during anaesthesia and surgical operations is well described. This is commonly associated with a nitrous oxide/oxygen/muscle-relaxant technique. A trend towards total intravenous anaesthesia has resulted in the omission of nitrous oxide from the method. We report a patient in whom awareness occurred using an etomidate infusion in place of nitrous oxide.

Case report

A fit 29-year-old electronics technician weighing 60 kg presented for performance of anterior colonic resection for multiple polyps in which carcinomatous changes had occurred. At the pre-operative visit he was assessed as being fit for anaesthesia (American Society of Anesthesiologists' grade I). He had previously undergone one uneventful general anaesthetic by an inhalation technique for the repair of knee ligaments.

Premedication comprised droperidol 5 mg and papaveretum 15 mg intramuscularly 70 minutes pre-operatively. On arrival in the operating room the patient was sedated and calm. Intravenous induction of anaesthesia was achieved with droperidol 15 mg and fentanyl 500 µg over 5 minutes, followed by